identification of atrocity prone areas for prevention of crime, and measures to be taken for economic and social rehabilitation of victims of atrocities. The State Governments were also requested to undertake a comprehensive review of the effectiveness of the law enforcement machinery in tackling the problems faced by members of the Scheduled Castes/Schedule Tribes and also take appropriate measures aimed at increasing the responsiveness of the law and order machinery.

**Schemes for Generating Wind and Solar Energy**

835. SHRI SURESH PACHOURI:
SHRI MOOLCHAND MEENA:

Will the Minister of NON-CONVENTIONAL ENERGY SOURCES be pleased to state :

(a) the details of various schemes for generating wind and solar energy in the States especially in the NE Region;

(b) the magnitude of electricity generated and cost per unit of generating the electricity through the Non-Conventional Energy Sources; and

(c) how far these schemes have benefited the people of these States?

THE MINISTER OF STATE OF THE MINISTRY OF NON-CONVENTIONAL ENERGY SOURCES (SHRI M. KANNAPPAN) : (a) The Ministry is implementing various schemes/programmes covering wind power, water pumping windmills, solar photovoltaic power, solar lighting, solar water heating systems, solar cookers, solar water pumping systems etc. to utilize wind and solar energy throughout the country, including in the North-Eastern Region. Details of various systems/devices based on wind and solar energy installed in the country and North Eastern Region, as on 30-9-2002, are given in Statement I (*See* below).

(b) The details of estimated electricity generated and average cost of electricity generation through Non-conventional Energy Sources are given in Statement II (*See* below).

(c) Various Non-conventional Energy systems/devices installed in the country are benefiting people by meeting various decentralized energy needs particularly in the rural and remote areas for cooking, heating and lighting; by generation of power in stand-alone mode for various applications; and, by generation of power for augmentation of grid capacity.

***Statement I***

*Details of various systems/devices based on wind and solar energy installed in the country and North Eastern Region, as on 30-9-2002*

| S.No. | Systems/Devices | Installation in the country | Installation in North Eastern Region |
|---|---|---|---|
| 1. | Wind Power (MW) | 1702.30 | Nil |
| 2. | Water Pumping Windmills (Nos.) | 854 | 3 |
| 3. | Solar Photovoltaic Power (MW) | 2.30 | Nil |
| 4. | Solar Photovoltaic Lighting Systems. | | |
| | i. Solar Lanterns (Nos.) | 427687 | 38668 |
| | ii. Solar Home Lighting Systems (Nos.) | 206732 | 8613 |
| | iii. Solar Street Lighting Systems (Nos.) | 41776 | 3272 |
| | iv. Solar Photovoltaic Power Plants (kWp) | 1188 | 90.47 |
| 5. | Solar Water Heating Systems (square meter collector area) | 0.60 million | Nil |
| 6. | Solar Cooker (Nos.) | 5,20,000 | 2348 |
| 7. | Solar Photovoltaic Power Pumping Systems (Nos.) | 5103 | 94 |

MW = Megawatt, kWp = Kilowatt peak.

***Statement II***

*Details of estimated electricity generated and average cost of electricity generated through Non-conventional Energy Sources*

| S.No. | Name of Scheme/ Programme | Estimated Electricity Generated in 2001-2002 (Million Units) | Average Cost of electricity generation Per unit (in Rupees) |
|---|---|---|---|
| 1. | Wind Power | 1950 | 2.25—2.75 |
| 2. | Biomass Power | 1278 | 2.00—3.00 |
| 3. | Solar Photovoltaic Power | 3.00 | 9.00—20.00 |
| 4. | Biomass Gasifier | 102.6 | 2.25—2.75 |
| 5. | Small Hydro Power | 4090 | 2.00—3.50 |
| 6. | Energy from Wastes | 48 | 1.75—3.50 |